



Dart Hawkesbury
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

DAS NOV 16 2017
13
9-89

647.0115
Job Sheet 168277



Part No: 647.0115

Job Qty: 6 ea

Part Name: Clip



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 11/13/17

Job Tracking No:

Due Date: 11/28/17

Created By: Linda Lacelle

Type: Stock

Description:

Note: DWG REV A1 SHEET 5 IPP REV:A 12.08.14 NEW ISSUE DD VERF:JFS IPP REV:B 13.09.10 NOW MADE AT GFI DD VERF:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
110	Purchasing	6 pcs		11/28/17	0.00	0.00	Purchasing		15-12-17
120	QC	6 pcs		11/28/17	0.00	0.00	QC6		38
160	Outsource	6 pcs		11/28/17	0.00	0.00	Outsource4		AT 9-89 18/01/28
170	Packaging	6 pcs		11/28/17	0.00	0.00	Packaging2		AT 18/01/28
180	QC	6 pcs		11/28/17	0.00	0.00	QC5		38
210	Packaging	6 pcs		11/28/17	0.00	0.00	Packaging3		38 JAN 31 2018
220	QC21-SA	6 Ea		11/28/17	0.00	0.00	QC21		38 18/01/31

Part Op 110 - Issue P/O: 038412 Make 647.0115 as per Dwg 647.0100 Possible Supplier: G.F.Y. Material release note is Descriptions: required

160 - Issue P/O to ATG : _____ 1- Black Anodize as per Dwg 647.0100 2- PRIME AS PER DWG, SEE NOTE #2 Certification of Conformity is required

210 - ***IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV***

NOV 20 2017

Job Allocations

Operation	Component Part	Required	Inventory	Allocated	Std Qty
110-Purchasing	647.0115P	6	0	0	0

Part Specifications

Specifications could not be found.

Plex 11/14/17 7:37 AM dart.boucher.sylvie

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION		AGAINST DEPARTMENT/PROCESS			
	Rework ☐	Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	
	Scrap ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	
	Use-as-is ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	
	Suspected Unapproved ☐	Large Fab ☐	Composite ☐	Supplier ☐		

Date : _____	Step #: _____	QTY Effective : _____	MRB (QS1042) Approval ☐
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Description Work Order Deviation	Disposition
----------------------------------	-------------



Completed By

Lead hand / Supervisor
Approval VerificationQC / QA Coordinator
Approval

Root Cause	
Environment ☐	No Re-verification ☐
Design ☐	Operator ☐
Doc/Data ☐	Offset/Setup ☐
Equip/Tooling ☐	Supplier ☐
Handling/Pre ☐	Training ☐
Material ☐	Use for Testing ☐
Internal Transport ☐	Poor Informatio ☐
Tribal Knowledge ☐	Rushing ☐
LOA ☐	Product Improvement ☐
Substation ☐	Process Improvement ☐
Past Expiry Date ☐	Manufacturing Process ☐
Misidentified ☐	Past Due ☐

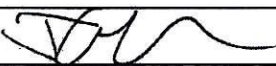
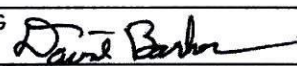
PART NO:
Revision:
Operation:
Change No:

647.0115**Purchasing**

Mfg Date: 12/15/17
Job No: 168277

☐	Positioned Wrong
☐	Outside Dimensions
☐	Over/Under tolerance
☐	Part Incorrect
☐	Part Lost/Missing
☐	Part Moved
☐	Drawing
☐	Finish
☐	Misread
☐	Turning Sequence

☐ Heat Treat☐ Wave/Twist in Tube☐ Marks/Chatter☐ Instructions Incomplete/Unread☐ Drill Holes☐ Misaligned/off center☐ OTHER :

APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 03985			SHEET 1 OF 2	
	DWG NO. 647.0100	REV: A	PREPARED BY J. BECKER	DATE: 7/15/13	EFFECT ON DWG ☐ INC. ☒ UNINC.
	DWG TITLE: SHEET METAL				
	APPROVED BY: ENGR 	MFG 	QC 	EFF. NEXT ORDER	
TRANSACTION CODES (TC): A-ADD R-REVISE C-CREATE D-DELETE	REASON: REVISED NOTE 2. ADDED 647.0117				

- NOTES:
- IS** →
- 1 MATERIAL: ALUMINUM 2024-T3 PER AMS-QQ-A-250/4.
 - 2 FINISH: IAW MPP-172 ANODIZE IAW SECTION 2.1, PRETREATMENT IAW SECTION 3.1 AND PRIMER IAW SECTION 4.1.
 - 3. DEBURR AND BREAK ALL SHARP EDGES.
 - 4. IDENTIFY IAW MPP-120.
 - 5 MATERIAL: 304 SS IAW AMS 5643.
 - 6 FINISH: PRIME IAW MIL-P-23377J TYPE I CLASS N.
 - 7 OTHER DIMENSIONS SAME AS 647.0112

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 168277

DAS
30
9-89

NOV 16 2017

SHEET 1, ZONE D1 IS:

C	647.0117	STRUT BRACKET		△	△
F/N/TC	PART NUMBER	DESCRIPTION		MATERIAL	SPECIFICATION
DOCUMENTS EFFECTED:		CHANGE CATEGORY		DER REVIEW REQUIRED	
☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☐ BOM		☐ MAJOR ☒ MINOR		☐ YES ☒ NO	

DQA: _____ Date: _____

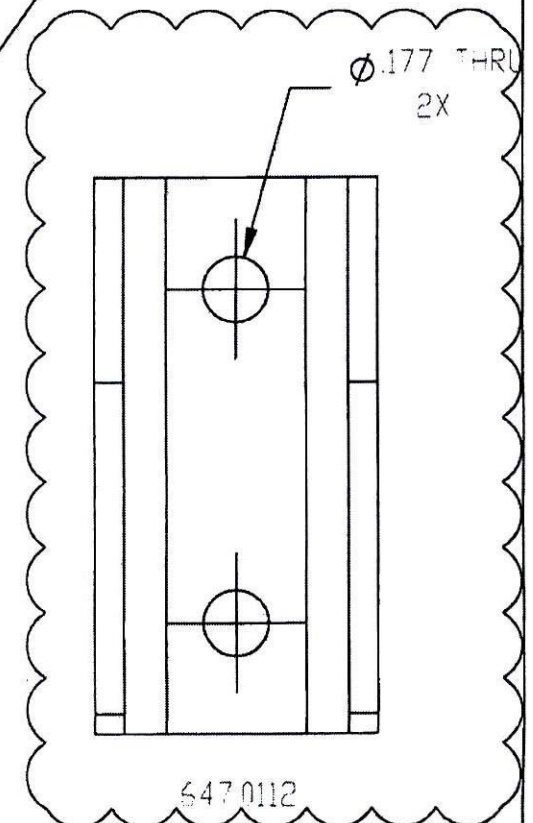
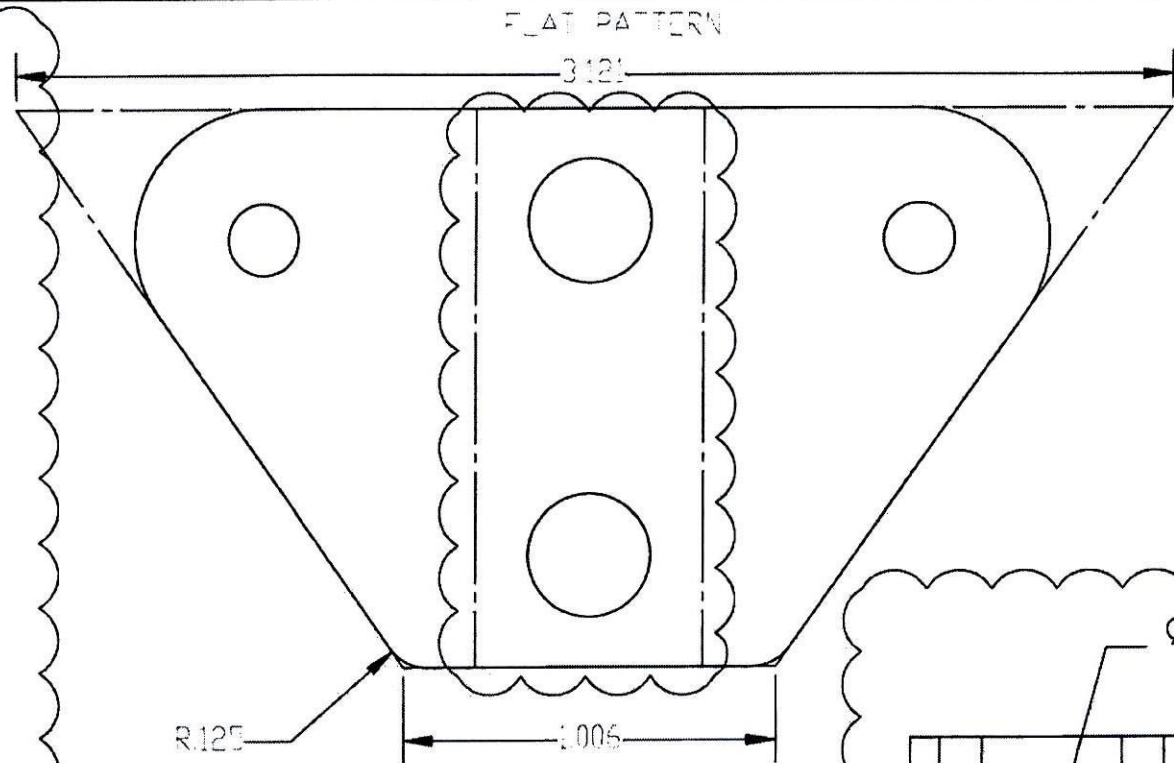
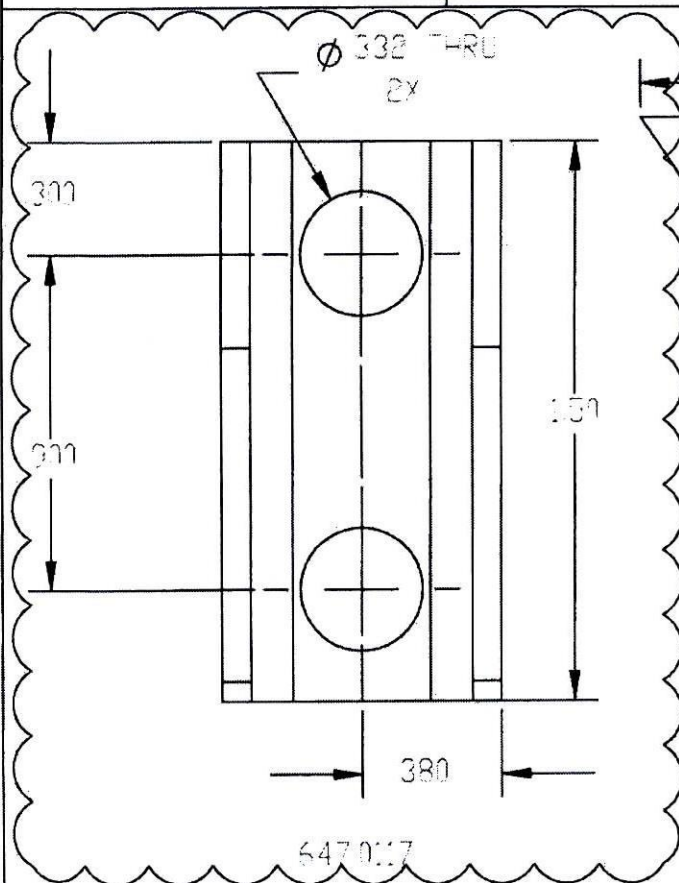


WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER : _____							



SHEET 3, ZONE B2-4 IS:

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

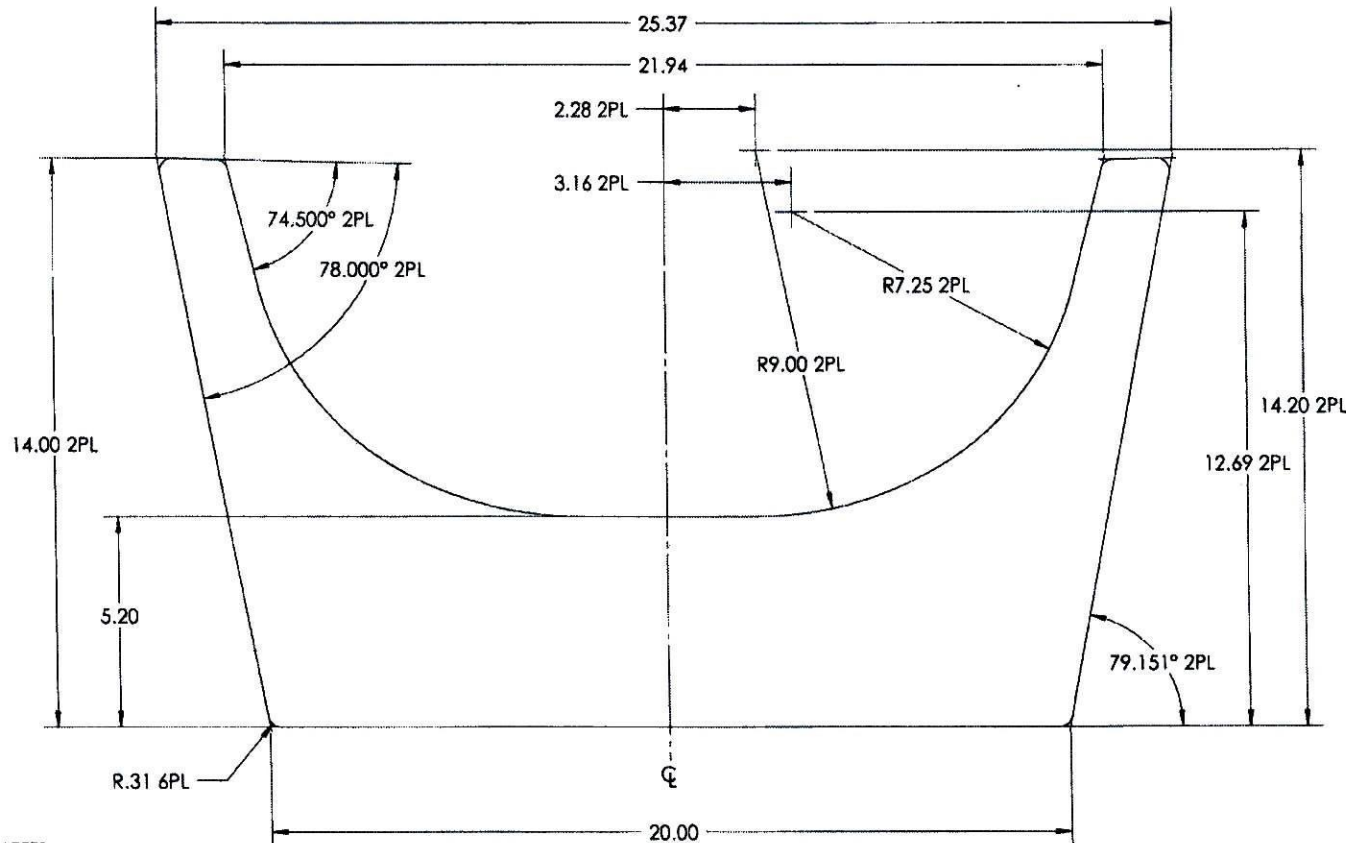
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER :							

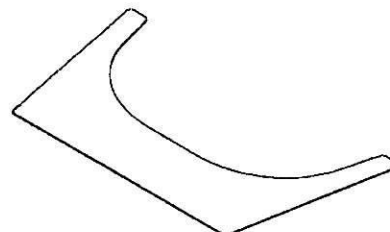
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REVISION			
REV	DESCRIPTION	DATE	APPROVED
1	LAST PROTOTYPE REVISION #2		N/C
N/C	INITIAL RELEASE	08/28/09	P. BRAVO
A	INCORPORATED ECN 03722 02964 0308	04/26/11	P. BRAVO



NOTES:

- 1 MATERIAL: ALUMINUM 2024-T3 PER AMS-QQ-A-250/4.
- 2 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK; PRETREAT PR-148 ADHESION PROMOTER; PRIME IAW MIL-P-23377J TYPE I CLASS N.
3. DEBURR AND BREAK ALL SHARP EDGES.
4. IDENTIFY IAW MPP-120.
- 5 MATERIAL: 304 SS IAW AMS 5643.
- 6 FINISH: PRIME IAW MIL-P-23377J TYPE I CLASS N.



647.0110

UNINCORPORATED ECN(s)

03722

		647.0116	DOUBLER	△	△
		647.0115	CLIP	△	△
		647.0114	CLIP	△	△
		647.0113	STRUT DOUBLER	△	△
		647.0112	STRUT BRACKET	△	△
		647.0111	PANEL	△	△
		647.0110	ROOF DOUBLER	△	△
	FIND #	PART #	DESCRIPTION	MATL	SPEC.
QTY			PARTS LIST		
NEXT ASSY (S)			APICAL INDUSTRIES		
646.9500			2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300		
ORIGINAL DATE 05-28-09 DRAWN BY P. ROSANO DESIGNED BY P. BRAVO DRAWING APPROVAL CHECKED BY CONFIRMED BY			UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1 PLACE DECIMAL ±.01 2 PLACE DECIMAL ±.005 ANGLES ±.5°		
			SHEETMETAL		
			QTY 1 SCALE NONE CAT# 07/12/06	DWG# 647.0100 SHEET 1 OF 6	REV A

DQA: _____ Date: _____



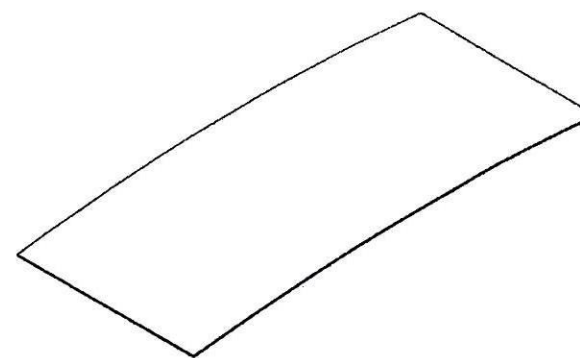
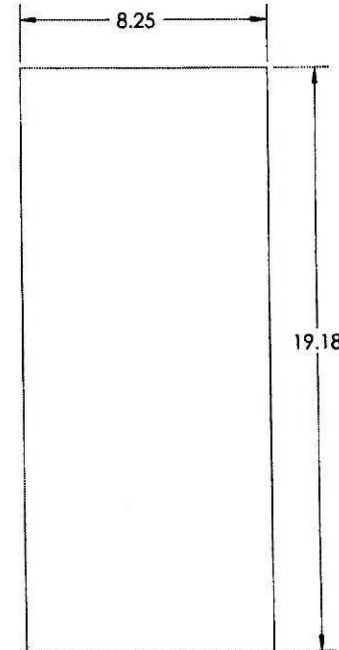
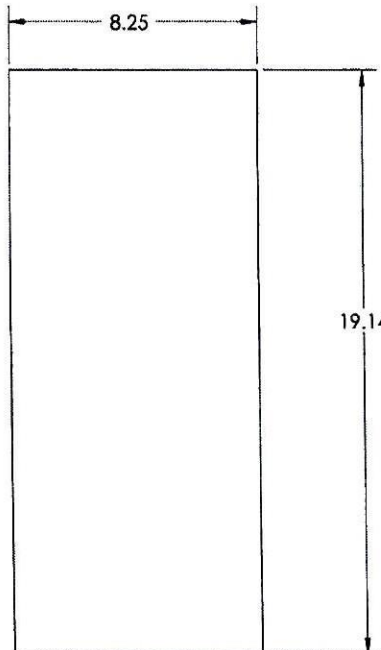
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

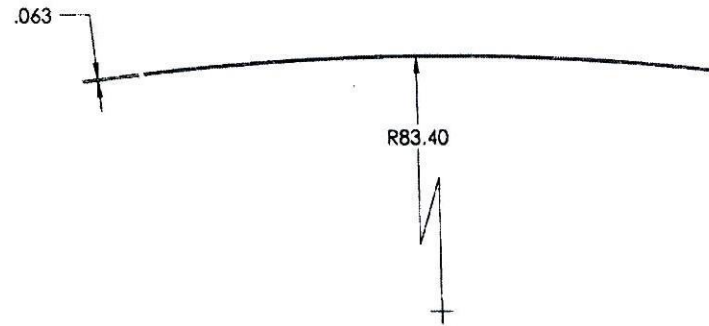
Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

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647.0111

FLAT PATTERN



ORIGINAL DATE 02-28-06		APICAL INDUSTRIES	
DRAWN BY W. ROSARIO	CHECKED P. BRAVO	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300	
DRAWING APPROVAL P. BRAVO		SHEETMETAL	
CONTRACTING		SET [CAGE CODE] DWG NO	REV
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE FRACTIONS DECIMALS ± .01 ANGLES ± .5°		B 07M26 647.0100	A
		SCALE NONE	SHEET 2 OF 6

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

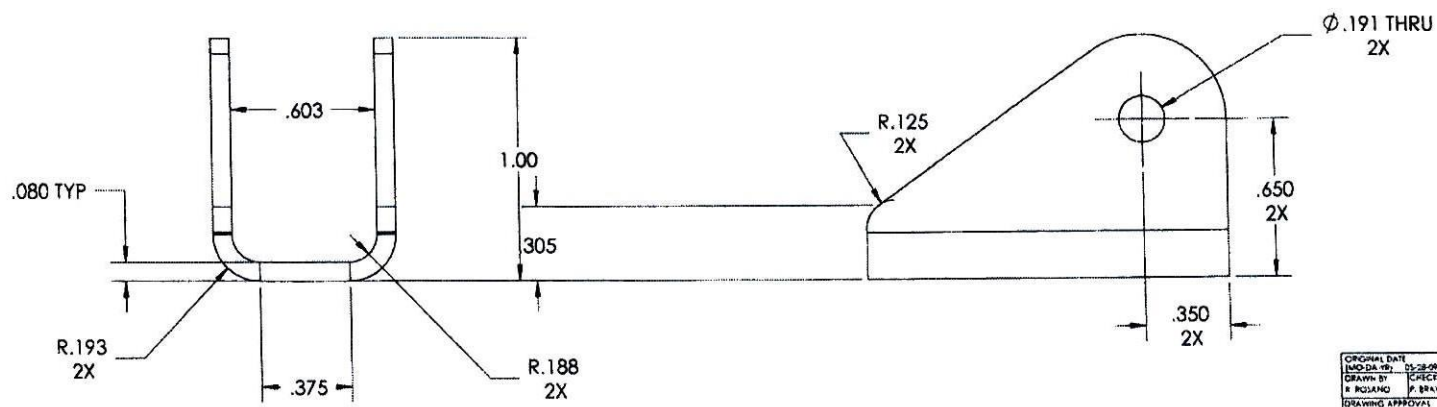
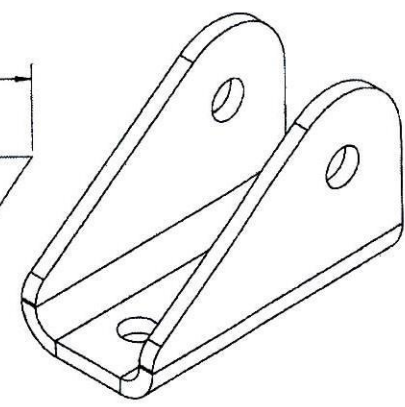
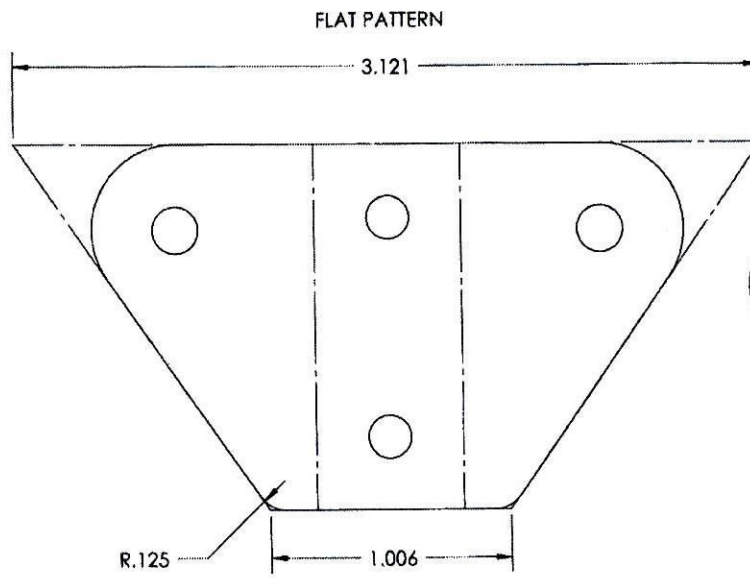
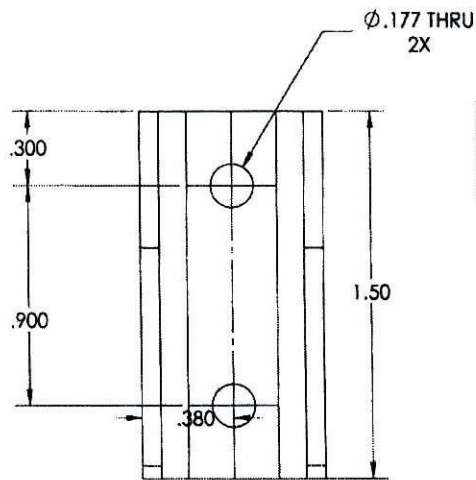
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td style="border: none;"></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																						
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																						
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																						
Large Fab ☐	Composite ☐	Supplier ☐																							
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																		
Description Work Order Deviation				Disposition				Completed By																	
								Lead hand / Supervisor Approval Verification																	
								QC / QA Coordinator Approval																	
Root Cause		FAULT CATEGORY																							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	OTHER : ☐																			

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REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



ORIGINAL DATE: 05-28-99		APICAL INDUSTRIES	
DRAWN BY: C. CRISTOF		2608 TEMPLE HEIGHTS DR.	
P. ROJAS		OCEANSIDE, CA. 92056-3512 (760) 724-5300	
DRAWING APPROVALS:		SHEETMETAL	
P. BRAVO			
CONTRACTING			
UNLESS OTHERWISE SPECIFIED			
DIMENSIONS ARE IN INCHES			
TOLERANCES ARE:			
2 PLACE DECIMALS ± .01			
3 PLACE DECIMALS ± .005			
ANGLES ± .5°			
NET LARGE CODE	DWG. NO.	REV	
B 07/02/96	647.0100	A	
SCALE: NONE		SHEET 3 OF 6	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

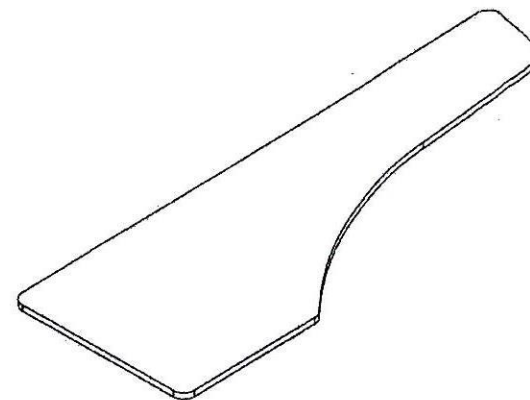
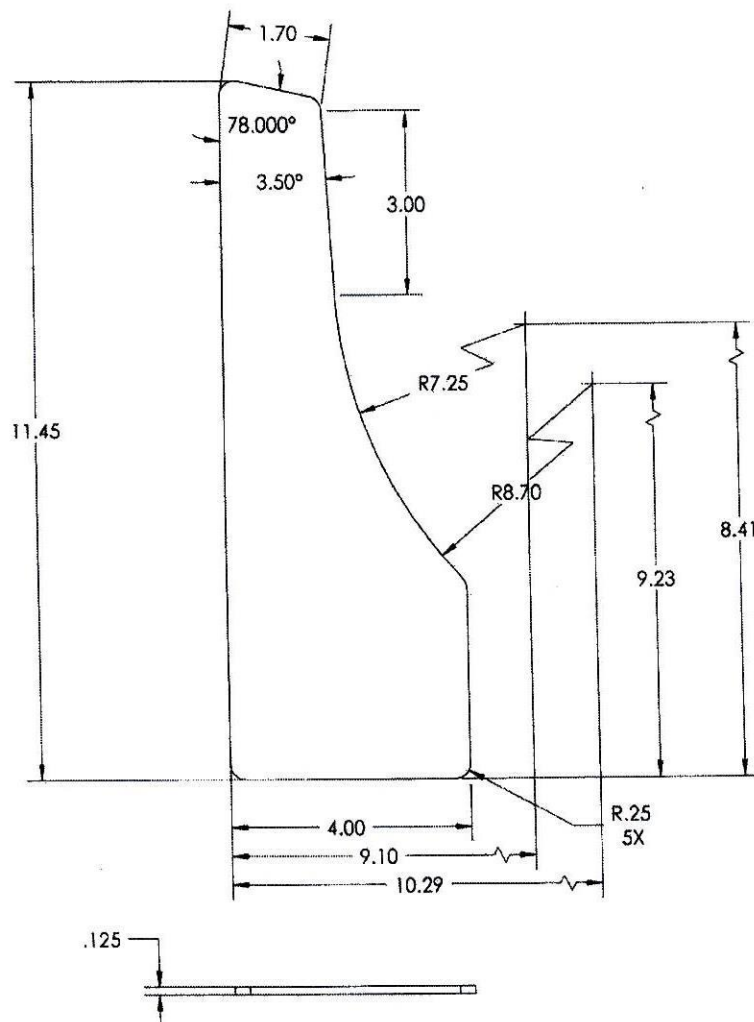
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong				
Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions				
Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance				
Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect				
Handling/Pre ☐	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing				
Material ☐	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved				
Internal Transport ☐	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing				
Tribal Knowledge ☐	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Finish				
LOA ☐	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread				
Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence				
Past Expiry Date ☐	☐ Manufacturing Process	OTHER :							
Misidentified ☐	☐ Past Due								

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

REVISIONS		DATE	APPROVED
REV.	DESCRIPTION		



647.0113

ORIGINAL DATE 12/01/07		APICAL INDUSTRIES	
DRAWN BY: J. HICKS		2608 TEMPLE HEIGHTS DR.	
P. ROMANO		OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL		SHEETMETAL	
P. BRAVO			
CONTRACT NO.			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 3 PLACE DECIMALS ± .01 2 PLACE DECIMALS ± .005 ANGLES ± .5°		SHEET CODE: 647.010J	REV. A
		SCALE: NONE	SHEET 4 OF 6

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION		AGAINST DEPARTMENT/PROCESS			
	Rework ☐	Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	
	Scrap ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	
	Use-as-is ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	
	Suspected Unapproved ☐	Large Fab ☐	Composite ☐	Supplier ☐		

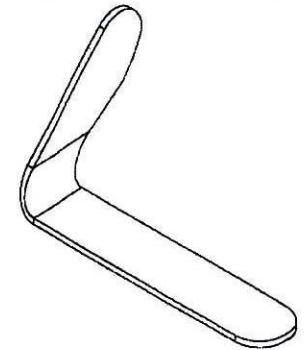
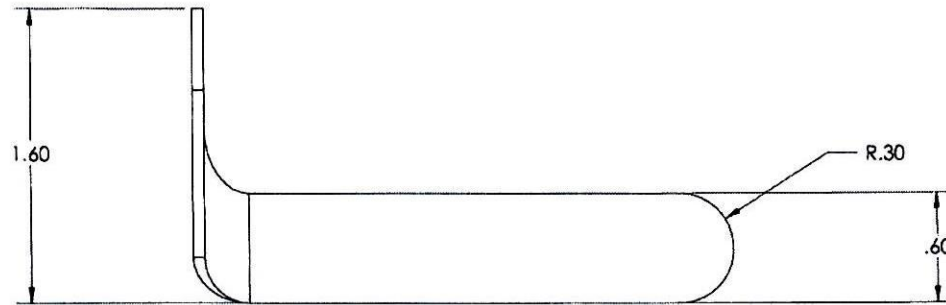
Date :	Step #:	QTY Effective :	MRB (QSI042) Approval
--------	---------	-----------------	-----------------------

Description Work Order Deviation	Disposition	Completed By
		Lead hand / Supervisor Approval Verification
		QC / QA Coordinator Approval

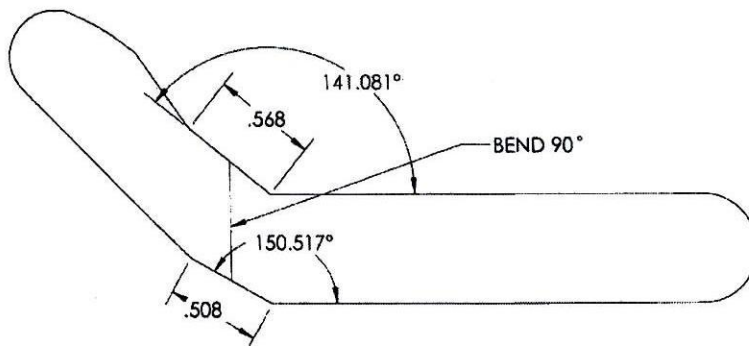
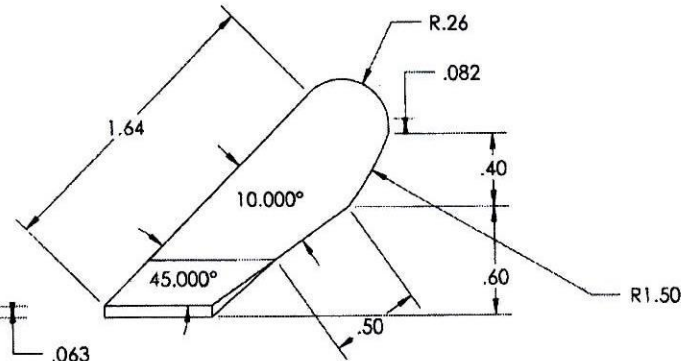
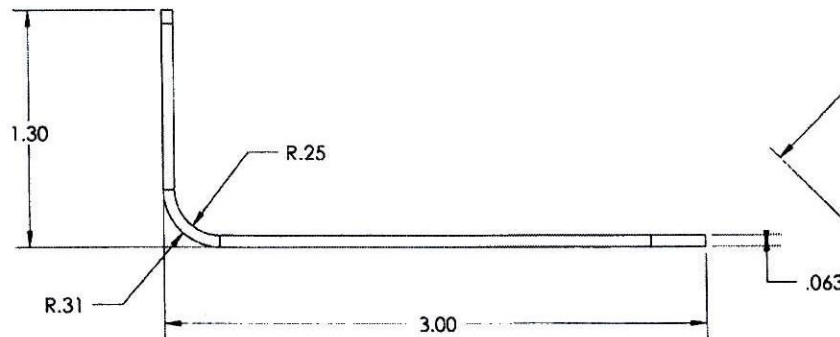
Root Cause		FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Past Expiry Date ☐	Manufacturing Process ☐				
Misidentified ☐	Past Due ☐	OTHER : _____			

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APICAL INDUSTRIES ANY REPRODUCTION IN PART OR WHOLE WITHOUT
THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



647.0114 SHOWN
647.0115 OPPOSITE



FLAT PATTERN

ORIGINAL DATE DWG-DATE 05-28-04		APICAL INDUSTRIES	
DRAWN BY P. ROSAND		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL P. ROSAND		SHEETMETAL	
CONTRACT NO.		647.0100	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 3 PLACE DECIMALS ± .01 ANGLES ± .5°		SCALE NONE	SHEET 5 OF 6

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



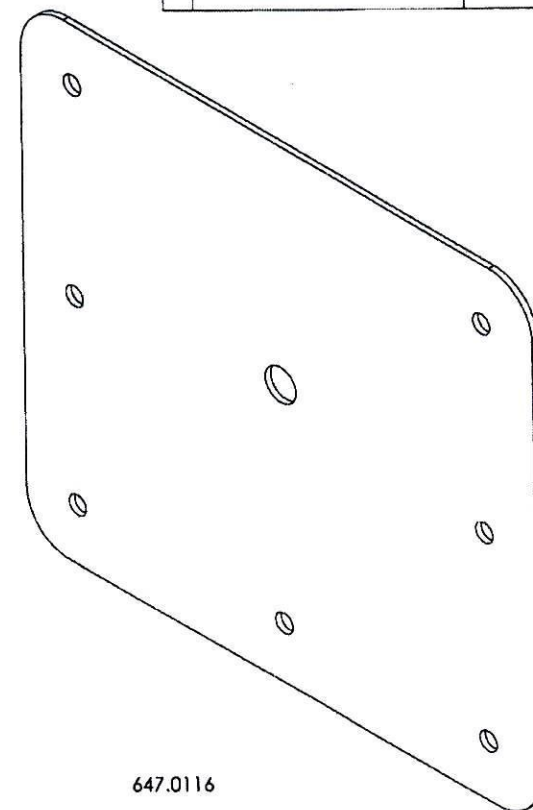
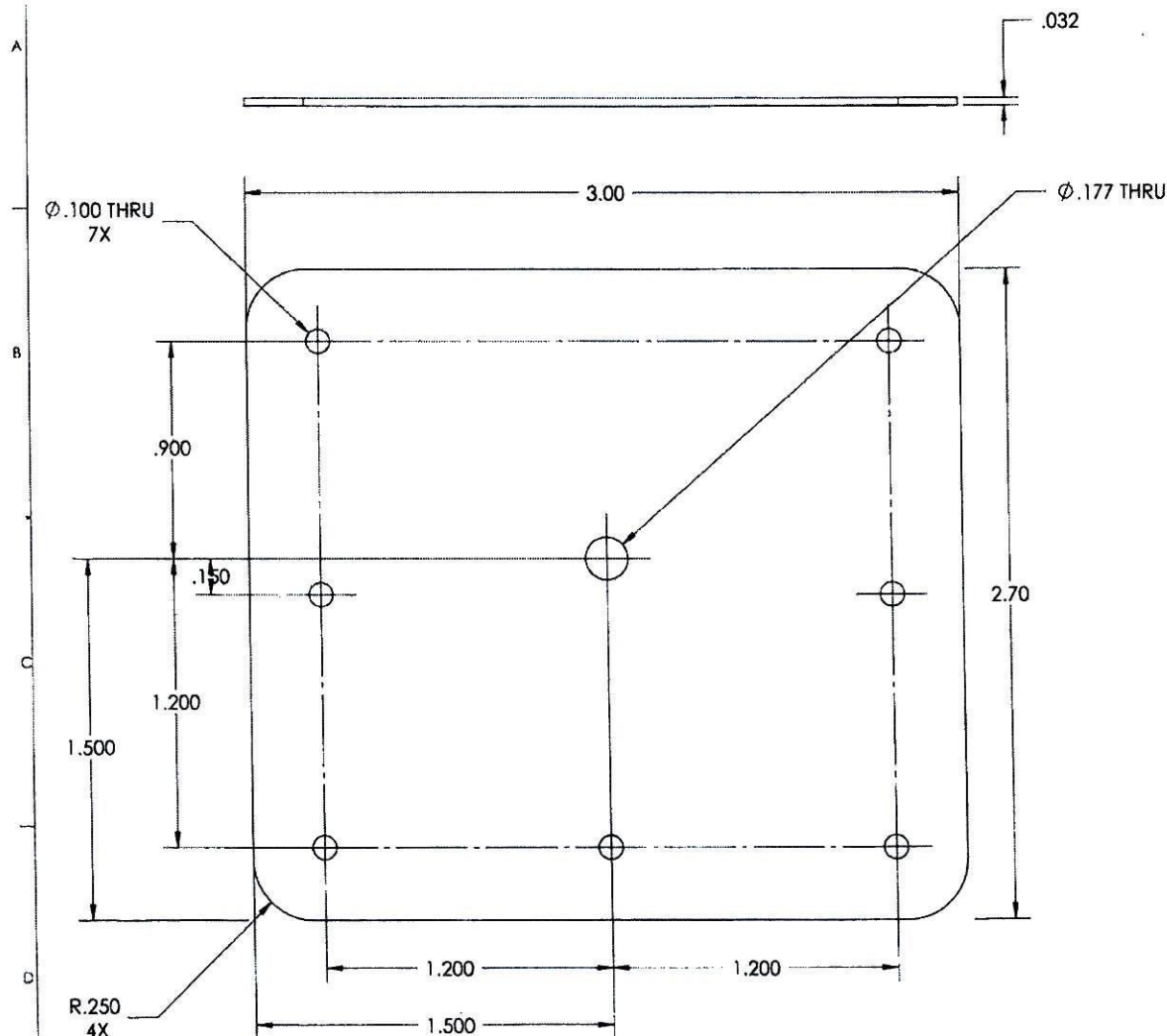
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabelled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF
APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT
THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

REV	DESCRIPTION	DATE	APPROVED



647.0116

ORIGINAL DATE JULY 1988	DESIGNER P. SPAYO	APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300	
DRAWN BY P. SPAYO	CHECKED P. SPAYO	SHEETMETAL	
DRAWING APPROVAL P. SPAYO	CONTRACT NO.	SHEET 6 OF 6	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1 PLACE DECIMALS: $\pm .01$ 2 PLACE DECIMALS: $\pm .005$ 3 PLACE DECIMALS: $\pm .001$		SCALE: NONE	REV: A

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																						
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																						
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																						
Large Fab ☐	Composite ☐	Supplier ☐																							
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval																		
Description Work Order Deviation				Disposition																					
								Completed By																	
								Lead hand / Supervisor Approval Verification																	
								QC / QA Coordinator Approval																	
Root Cause		FAULT CATEGORY																							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	OTHER : ☐																			



Dart Hawkesbury
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO038412

Supplier: GFI001-VC
GFI
180 Avenue Labrosse
Pointe Claire
QC
H9R 1A1 Canada
Phone: 514 630 4877
Fax: 514 630 4849

PO No: PO038412
PO Date: 11/20/17
Due Date: 12/11/17
**Purchase Order
Revision:**
Revision Date:
Ship-To Contact: Phone:

E-MAILED
NOV 21 2017

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pymt Terms: COD
Freight Terms:
Special Comments:

Items

Line Item	Part	Rev	Supplier Part No	Item No	Description	Item Tax	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	647.0114P	-			Clip As per Dwg 647.0100 Rev.A		Firmed	12/11/17 21	50 pcs	0 pcs	50 pcs	\$6.00/pcs 500	\$300.00
2	647.0115P	-			Clip As Per Dwg 647.0100 Rev. A		Firmed	12/11/17 21	50 Ea	0 Ea	50 Ea	\$6.00/Ea 500 XSD	\$300.00 15-12-17
Grand Total:												\$600.00	

Order Notes

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Procurement Quality Clauses

- A005 RIGHT OF ENTRY
- A007 FIRST ARTICLE INSPECTION (FAI) BY SELLER, (DOCUMENTATION MAINTAINED BY SUPPLIER)
- A012 CHEMICAL AND PHYSICAL TEST REPORTS
- A016 PERSONNEL QUALIFICATION
- A017 RAW MATERIAL IDENTIFICATION (AS APPLICABLE)
- A026 CERTIFICATION OF MATERIAL CONFORMANCE
- A041 QUALITY MANAGEMENT SYSTEM
- A042 DART NOTIFICATION BY SUPPLIER
- A043 RETENTION OF QUALITY DOCUMENT
- A048 COUNTERFEIT PARTS AVOIDANCE, DETECTION, MITIGATION AND DISPOSITION PROGRAM
- A049 SUPPLIER AWARENESS

Plex 11/20/17 8:48 AM Dart.baker.diane



180 AVENUE LABROSSE
POINTE-CLAIRE, QC, CANADA H9R 1A1
TÉL.:(514) 630-4877 - FAX:(514) 630-4849

GFI est une division de Thomas & Betts Limitée / GFI is a division of Thomas & Betts Limited



BON DE LIVRAISON /SHIPPING MEMO

DATE DE LIVRAISON/SHIPPING DATE			N° DE BON DE LIVRAISON	PAGE
JR - DY	MO - MO	AN - YR	SHIPPING MEMO NO.	
11	12	17	0612046	1/1



VENDU À /SOLD TO

EXPÉDIÉ À /SHIP TO

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON
K6A 1K7

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON
K6A 1K7

CODE DE CLIENT CUSTOMER CODE	N° DE CONTRAT JOB NO.	VOTRE N° DE COMMANDE YOUR PURCHASE ORDER NO.	EXPÉDIÉ PAR SHIP VIA
DART GFI-0299	0342062	PO038412	

QUANTITÉ QUANTITY	N° DE PIÈCE PART NO.	DESCRIPTION
----------------------	-------------------------	-------------

50 647.0115P

CLIP

ITEM 2
CERTIFICATE OF CONFORMANCE REQ
FAI REQ'D

MFG. JOB# 0342062-001 QTY 50 pcs

DUE DATE: 21 December 2017

~~FAI~~



DAS
38
9-89

EXPÉDITEUR
SHIPPER

REÇU PAR /RECEIVED BY

DATE

TOUTES LES RÉCLAMATIONS DOIVENT ÊTRE FAITES EN DEDANS DE 5 JOURS DE LA RÉCEPTION
ALL CLAIMS MUST BE MADE WITHIN 5 DAYS OF RECEIPT OF GOODS.

CERTIFICATE OF COMPLIANCE
CERTIFICAT DE CONFORMITE



Membre de / A Member of **Thomas & Betts**

180 LABROSSE AVENUE
POINTE CLAIRE, QC
H9R 1A1

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7

CERTIFICATE NO. 2 OUR JOB NO 0342062-001 SHIPPING MEMO 0612046

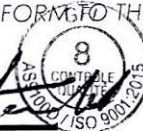
ITEM	QUANTITY	PURCHASE ORDER	PART NUMBER	REV	NAME	DWG ISSUE
<u>2</u>	<u>50 PCS</u>	<u>PO38412</u>	<u>647.0115P</u>	<u>A</u>	<u>CLIP</u>	<u>A</u>
MATERIAL		SUPPLIED BY		MAT. REL. NO.		
<u>AL 2024-T3 (AMS-QQ-A-250/4)</u>		<u>SAMUEL / KAISER ALUMINUM</u>		<u>237101B1</u>		

	PROCESS	PROCESSOR	RELEASE NOTE #
1	<u>FIRST ARTICLE INSPECTION REPORT ON FILE</u>	<u>GFI</u>	<u>N/A</u>
2	<u>NO FINISH AS PER E-MAIL ON FILE</u>		
3	<u>REF. GFI MANUFACTURING JOB NUMBER 0342062-001 (50 PCS)</u>		
4			
5			
6			
7			
8			
9			

WE HEREBY CERTIFY ALL THE PARTS COVERED BY THIS CERTIFICATE HAVE BEEN MANUFACTURED FROM MATERIAL SUPPLIED ON RELEASE NOTE SHOWN ABOVE AND THAT ALL PARTS HAVE BEEN INDIVIDUALLY INSPECTED AND CONFORM TO THE DRAWINGS AND PURCHASE ORDER REFERENCED ABOVE.

DATE 11 DECEMBER 2017

G.F.I. Q.C. REP. 





LES METAUX SPECIALISES SAMUEL
21525 CLARK-GRAHAM
BAIE D'URFE, QUEBEC, CANADA
H9X 3T5
(514) 457-3399 TÉLÉC (514) 457-9393

No 004791351



PAGE 1 DE/OF 2

TRANSPORTEUR/CARRIER NAME
CASTERO R-571041-4

CAMION/TRUCK
099

NOM DE LA BRANCHE/SALES BRANCH NAME
SAMUEL & FILS & CIE LTÉE

DATE D'EXP/DATE OF SHIPMENT
11/22/17

VENDU À/SOLD TO:
3FI, DIVISION DE THOMAS & BETTS LTÉE
180 LABROSSE

POINTE-CLAIRE
QC
H9R1A1

(514) 630-4877

EXPÉDIÉ À/SHIP TO: FAB: DEST
GFI INC.
180 LABROSSE

POINTE-CLAIRE
QC
H9R1A1 CA

(0201009-00001)

N° COMMANDE
N° ITEM
047732-01

DESCRIPTION ET POIDS/DESCRIPTION AND WEIGHT

Cert/Test: AVAIL
36 LVR

#Comm du client: 90232
1 PCS 2024 T3 BARE QQA250/4

.0630"x48"x120"
AMS-QQA-250/4
C OF C + MILL TESTS REQUIRED.

#Pièce AS0634814424

Description	PCS	Pd ca	Qté	#PLT	#Étiq	VendeurOrg
#Étiq mln	# levée				Etiq.orig #Coul	
	1	40.000	36	387427	4369176 017	US
					16.33 KG	
					D496999 237101B1	
2142320						
Total:	1	40.000	36	16	KG	

047732-02

#Comm du client: 90232
1 PCS 2024 T3 BARE QQA250/4

Cert/Test: AVAIL
8 LVR

.0630"x48"x24"
AMS-QQA-250/4
C OF C + MILL TESTS REQUIRED.

#Pièce AS0634814424

Description	Pcs	Pd ca	Qté	#PLT	#Étiq	VendeurOrg
#Étiq mln	# levée				Etiq.orig #Coul	
	1	8.000	8	387427	4369177 017	US
					3.63 KG	
					D496999 237101B1	
2142320						
Total:	1	8.000	8	4	KG	



CHARGES: PRÉPAYÉ/PREPAID
PRÉPAYÉ PAR
EXPÉDITEUR/DISPATCHER

INST. VOITURIER/DRIVER INSTRUCTIONS
VOITURIER/DRIVER

VALUATION (Max \$2,000 unless otherwise stated)
DECLARED VALUE OF SHIPMENT
REÇU PAR/RECEIVED BY



LES METAUX SPECIALISES SAMUEL
21525 CLARK-GRAHAM
BAIE D'URFE, QUEBEC, CANADA
H9X 3T5
(514) 457-3399 TÉLÉC (514) 457-9393

No 004791351



PAGE 2 DE/OF 2

TRANSPORTEUR/CARRIER NAME
CASTERO R-571041-4

CAMION/TRUCK
099

NOM DE LA BRANCHE/SALES BRANCH NAME
SAMUEL & FILS & CIE LTÉE

DATE D'EXP/DATE OF SHIPMENT
11/22/17

VENDU À/SOLD TO:

3FI, DIVISION DE THOMAS & BETTS LTÉE
180 LABROSSE

POINTE-CLAIRE
QC
H9R1A1

(514) 630-4877

EXPÉDIÉ À/SHIP TO: FAB: DEST

GFI INC.
180 LABROSSE

POINTE-CLAIRE
QC
H9R1A1

CA

(0201009-00001)

N° COMMANDE
N° ITEM

DESCRIPTION ET POIDS/DESCRIPTION AND WEIGHT

Poids total:
Poids total:
#Total paquets: 1

44 LVR
20 KG

Commentaires connaissance:

CERTIFICATE OF COMPLIANCE MEETS
THE MATERIAL DETAILED ABOVE MEETS YOUR ORDER
REQUIREMENTS AND GRADE STANDARDS AS DESCRIBED
PLEASE REFER TO MILL TEST REPORT ATTACHED.
AUTHORIZED BY:

Heures récept:

7H30 AM @ 3H30 PM

A. Rainone Date 11/22/17

Anne Rainone
Administration



CHARGES: PRÉPAYÉ/PREPAID
PRÉPAYÉ PAR

INST. VOITURIER/DRIVER INSTRUCTIONS

EXPÉDITEUR/DISPATCHER

VOITURIER/DRIVER

VALÉRIE (67 000h max à moins d'avis contraire)
VALÉRIE (Max \$ 2.000h unless otherwise stated)
VALÉRIE DÉCLARÉE DE LE VÉRIE
DECLARED VALUE OF SHIPMENT

REÇU PAR/RECEIVED BY

SHIP TO:
 METAUX SPECIALISES SAMUEL QC
 21525 CLARK-GRAHAM
 BAIE D'URFE, PQ, CA H9X 3T5

SOLD TO:
 SAMUEL & FILS & CIE LTEE
 DIVISION OF SAMUEL & SON LTD
 1250 APPLEBY LINE
 BURLINGTON, ON, CA L7L 566

**KAISER
 ALUMINUM**
 Trentwood Works - Spokane, WA 99215
 Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
 4474876

CUSTOMER PO NUMBER: C74502-6		WORK PACKAGE:	CUSTOMER PART NUMBER:		SHIP RUN/LOAD: 104017/6	GOV'T CONTRACT NUMBER:	
KAISER ORDER NO: 1239517-6		SHIP DATE: 21-AUG-2017	ALLOY: 2024	CLAD: BARE	TEMPER: T3	PRODUCT DESCRIPTION: HT Flat Sheet	
WEIGHT SHIPPED: 3411 LB	QUANTITY: 77 PCS EST.	TRUCK B/L #: 2068552	GAUGE: 0.0630 IN (1.6002 MM)		DIAMETER/WIDTH: 48.000 IN (1219.2 MM)	LENGTH: 144.000 IN (3657.6 MM)	

MHU 2142320: LOT 237101B1: 77 pieces; *D496999*

Certified Specifications

- ✓ AMS 4037/RevQ
- ✓ AMS-QQ-A-250/4/RevB
- ✓ ASTM B 209/Rev14
- CMMP 019/RevD
- ✓ CMMP 025/RevV

Test Code: 1504
 Lot: 237101B1 Cast 495 Drop 73
 Test Results Ingot 1
 Melted in USA

(ASTM E8/B557)
 (EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T3	LT / 2 (Min:Max)	66.8 : 67.2 (461 : 463)	44.8 : 45.4 (309 : 313)	19.2 : 19.6

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual(wt%)	0.06	0.19	4.6	0.60	1.4	0.00	0.14	0.02	0.01	0.01	TOT 0.02

ALLOY LIMITS

	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
2024												
MIN(wt%)	0.00	0.00	3.8	0.30	1.2	0.00	0.00	0.00	0.00	0.00	EACH	0.05
MAX(wt%)	0.50	0.50	4.9	0.9	1.8	0.10	0.25	0.15	0.05	0.05	TOT	0.15

Aluminum Remainder





Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4474876

CERTIFICATION

Kaiser Aluminum, Trentwood Works, is ISO 9001, AS9100, and ISO 14001 certified, and hereby certifies that all material shipped under this order:

- * has been inspected, tested, and found to be in conformance with the requirements of the specifications indicated herein.
 - * All test equipment and measuring devices are calibrated and certified in accordance applicable specifications. For material thicknesses outside specification limits, mechanical properties are as shown herein and chemical composition meets specification requirements. Reported elongation values have been measured as elongation at fracture.
 - * was melted in the United States of America or a qualifying country per DFARS 225.872-1(a), was manufactured in the United States of America, and meets the requirements of DFARS 252.225 for domestic content.
 - * has been thermally processed in compliance with AMS 2772, where applicable.
 - * is mercury free, within the limits of detection of ASTM E1215 (< 1 ppm).
 - * is in compliance with RoHS 2, European Union Directive 2011/65/EU.
 - * is in compliance with European Chemical Agency, ECHA, REACH regulations, (EC) No 1307/2006, and Kaiser regularly monitors these regulations for updates.
 - * is free of Conflict Minerals, as defined in Section 15.2 of the Dodd-Frank Act.
 - * is free of void repair.
 - * meets the reporting requirements of EN10204, Type 3.1.
- Any warranty is limited to that shown on Kaiser Aluminum's standard general terms and conditions of sale. Test reports are on file, subject to examination. Test reports shall not be reproduced except in full, without the written approval of the Kaiser Aluminum laboratory. The recording of false, fictitious or fraudulent statements or entries on the certificate may be punished as a felony under federal law.

JAMES HEMENWAY, TECHNICAL PROCESS MANAGER





Dart Hawkesbury
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO038412

Supplier: GFI001-VC
GFI
180 Avenue Labrosse
Pointe Claire
QC
H9R 1A1 Canada
Phone: 514 630 4877
Fax: 514 630 4849

PO No: PO038412
PO Date: 11/20/17
Due Date: 12/11/17
**Purchase Order
Revision:**
Revision Date:
Ship-To Contact: Baker, Diane
Phone: dbaker@dartaero.com

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pymt Terms: COD
Freight Terms:
**Special
Comments:**

Items

Line Item	Part	Rev	Supplier Part No	Item No	Description	Item Tax	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	647.0114P	-			Clip As per Dwg 647.0100 Rev.A		Firmed	12/11/17 12/21/2017	50 pcs	0 pcs	50 pcs	\$6.00/pc 8.00	\$300.00
2	647.0115P	-			Clip As Per Dwg 647.0100 Rev. A		Firmed	12/11/17 12/21/2017	50 Ea	0 Ea	50 Ea	\$6.00/Ea 8.00	\$300.00
REVIEWED By Pedro at 4:16 pm, Nov 20, 2017												Grand Total:	\$600.00

Order Notes

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Procurement Quality Clauses

A005 RIGHT OF ENTRY
A007 FIRST ARTICLE INSPECTION (FAI) BY SELLER, (DOCUMENTATION MAINTAINED BY SUPPLIER)
A012 CHEMICAL AND PHYSICAL TEST REPORTS
A016 PERSONNEL QUALIFICATION
A017 RAW MATERIAL IDENTIFICATION (AS APPLICABLE)
A026 CERTIFICATION OF MATERIAL CONFORMANCE
A041 QUALITY MANAGEMENT SYSTEM
A042 DART NOTIFICATION BY SUPPLIER
A043 RETENTION OF QUALITY DOCUMENT

A048 COUNTERFEIT PARTS AVOIDANCE, DETECTION, MITIGATION AND DISPOSITION PROGRAM

A049 SUPPLIER AWARENESS

Plex 11/20/17 12:55 PM Dart.baker.diane

APPROVED

By Pedro at 4:17 pm, Nov 20, 2017



A.T.G. Industries Inc.
731 Industrielle Street
Rockland, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 914488

Date: 24-Jan-18

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

Chantal Lavoie
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms		Ship Via	
		OUR TRUCK	
Quantity	Description		
	Please reference this document's Pack List number on all correspondences regarding this shipment. If you have any questions, please contact us.		
25 ea	Part: 646.9910 Struts Hard Black Anodize per MIL-A-8625F, Type III, Class 2, .0005-.0045" (.5 - 4.5mils) Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied), .0006-.0009" (.6 - .9 mils) per drawing. Job: 22309		Rev: N/C PO: PO038727 Line: 19
50 ea	Part: 647.0114 Clip Hard Black Anodize per MIL-A-8625F, Type III, Class 2, .0005-.0045" (.5 - 4.5mils) Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied), .0006-.0009" (.6 - .9 mils) per drawing. Job: 22292		Rev: A PO: PO038727 Line: 2
50 ea	Part: 647.0115 Clip Hard Black Anodize per MIL-A-8625F, Type III, Class 2, .0005-.0045" (.5 - 4.5mils) Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied), .0006-.0009" (.6 - .9 mils) per drawing. Job: 22293		Rev: A PO: PO038727 Line: 3
15 ea	Part: 647.0111 Panel Hard Black Anodize per MIL-A-8625F, Type III, Class 2, .0005-.0045" (.5 - 4.5mils) Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied), .0006-.0009" (.6 - .9 mils) per drawing. Job: 22294		Rev: A PO: PO038727 Line: 4
2 ea	Part: 647.3916 Deflector Hard Black Anodize per MIL-A-8625F, Type III, Class 2, .0005-.0045" (.5 - 4.5mils) Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied), .0001-.0002" (.1		Rev: C Made in Canada.



A.T.G. Industries Inc.
731 Industrielle Street
Rockland, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 914488

Date: 24-Jan-18

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

Chantal Lavoie
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms		Ship Via	
		OUR TRUCK	
Quantity	Description		
	- 2 mils) per drawing. Job: 22298 PO: PO038727 Line: 8		
CERTIFICATE OF CONFORMANCE A.T.G Industries Inc. certifies that all items in this shipment conform to the requirements. Date: <u>24/01/2018</u> Certified Signature: <u>[Signature]</u> Receiver Signature: _____ A.T.G Industries Inc. is AS9100 Registered and Nadcap Chemical Processing Accredited. Note: This Packing Slip may contain parts that have been PLATED. Items that are plated may be subject to natural tarnishing and it is suggested that they be inspected within 24 hours of receipt.			
Made in Canada.			